

ATTORNEY DOCKET NO 2
1299-SW (P259US) (Formerly: 003498.P035)

PATENT
U.S. 09/614,833

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

All claims currently being amended are shown with deleted text struckthrough or double bracketed and new text underlined. Additionally, the status of each claim is indicated in parenthetical expression following the claim number.

Claims 1-33 remain.

Claims 1, 25, 32, and 33 are being amended.

Claims 17 - 20 are being cancelled.

Claims 34-57 have been withdrawn by restriction / election.

WHAT IS CLAIMED IS:

1. (Amended) A method comprising controlling access of computer network components to the network's communication medium as specified by a medium access control (MAC) protocol, the MAC protocol describing a MAC header comprising multimedia (MM) extensions, including a MM control field, to facilitate the communication of MM data between the network components, the MM control field including at least one subfield selected from the group consisting of a subfield indicating a number of bytes padded with zeros in a current frame, a subfield identifying a group of network components communicating with a network component designated as a point coordinator, a subfield indicating an index number for a multimedia stream being transmitted between network components, and a subfield indicating a frame number of a multimedia data stream frame associated with said MM control field.

2. (Original) The method of claim 1 wherein the communication is via a wireless medium.

021615.500060 Dallas 1772761.1

ATTORNEY DOCKET NO
1299-SW (P259US) (Formerly: 003498.P035)

3

PATENT
U.S. 09/614,833

3. (Original) The method of claim 2 wherein the communication is a radio frequency communication.
4. (Original) The method of claim 3 wherein the radio frequency communication comprises frequency hopping spread spectrum schemes.
5. (Original) The method of claim 3 wherein the radio frequency communication comprises direct sequence spread spectrum schemes.
6. (Original) The method of claim 2 wherein the communication is an infrared communication.
7. (Original) The method of claim 1 further comprising a multimedia capability indicator in a management frame.
8. (Original) The method of claim 1 wherein the MAC protocol further defines a capability field within a management frame, the capability field comprising information regarding the network component multimedia capabilities.
9. (Original) The method of claim 1 further comprising a set of parameters included in the initial communications between two network components, the parameters indicating whether the channel of communications is shared and/or the type of network component including proxy coordinator and master coordinator.

021615.500060 Dallas 1772761.1

ATTORNEY DOCKET NO 4
1299-SW (P259US) (Formerly: 003498.P035)

PATENT
U.S. 09/614,833

10. (Original) The method of claim 1 further comprising a definition for a multimedia command frame.
11. (Original) The method of claim 10 wherein the multimedia command frame comprises multiple commands and acknowledgements transmitted from a one network components to one or more of the network components.
12. (Original) The method of claim 11 wherein a one network component groups two or more multimedia commands intended for a second network component in a command sub-block.
13. (Original) The method of claim 12 wherein the multimedia command frame further comprises a destination address and the command sub-block length.
14. (Original) The method of claim 1 further comprising a frame control field (FC) wherein a type for multimedia data communication may be indicated.
15. (Original) The method of claim 14 wherein the FC field consists of the first 16 bits of the MAC header transmitted by the network component.
16. (Original) The method of claim 1 wherein the MM control field comprises a frame position subfield.
17. Cancelled

021615.500060 Dallas 1772761.1

ATTORNEY DOCKET NO 5
1299-SW (P259US) (Formerly: 003498.P035)

PATENT
U.S. 09/614,833

18. Cancelled

19. Cancelled

20. Cancelled

21. (Original) The method of claim 1 wherein the MM control field consists of 24 bits.

22. (Original) The method of claim 21 wherein the 24-bit MM control field consists of five sub-fields.

23. (Original) The method of claim 22 wherein the five sub-fields consist of:

- a first 2-bit sub-field indicating a frame position within a series of frames,
- a second 2-bit sub-field indicating the number of bytes padded with zeroes in the current frame to make the entire frame 4-byte aligned,
- a third 4-bit sub-field indicating an identification number assigned to a group of network components communicatively coupled and controlled by a one computer network component designated as a point coordinator,
- a fourth 8-bit sub-field indicating an index number for a multimedia data stream being transmitted between the network components,
- a fifth 8-bit sub-field indicating a frame number of a multimedia data stream frame associated with said MM control field.

021615.500060 Dallas 1772761.1

ATTORNEY DOCKET NO
1299-SW (P259US) (Formerly: 003498.P035)

6

PATENT
U.S. 09/614,833

24. (Original) The method of claim 1 wherein the MM control field is the last MAC header field transmitted before transmitting a frame body.

25. (Amended) An interface between a computer system and a computer network, the interface comprising an implementation of a medium access control (MAC) protocol wherein multimedia data communication extensions, including a multimedia control field, are available for communicating multimedia data to or from other network components, the multimedia control field including at least one subfield selected from the group consisting of a subfield indicating a number of bytes padded with zeros in a current frame, a subfield identifying a group of network components communicating with a network component designated as a point coordinator, a subfield indicating an index number for a multimedia stream being transmitted between network components, and a subfield indicating a frame number of a multimedia data stream frame associated with said MM control field.

26. (Original) The interface of claim 25 wherein the interface is a network interface card (NIC).

27. (Original) The interface of claim 25 wherein the interfacing occurs via a wireless medium.

28. (Original) The interface of claim 27 wherein the interfacing occurs via a radio frequency communications.

29. (Original) The interface of claim 28 wherein the radio frequency

021615.500060 Dallas 1772761.1

ATTORNEY DOCKET NO
1299-SW (P259US) (Formerly: 003498.P035)

7

PATENT
U.S. 09/614,833

communications comprise frequency hopping spread spectrum techniques.

30. (Original) The interface of claim 28 wherein the radio frequency communications comprise direct sequence spread spectrum techniques.

31. (Original) The interface of claim 27 wherein the interfacing occurs via infrared communications.

32. (Amended) A system communicatively coupled to other systems in a computer network, the system comprising a network interface that implements a medium access control (MAC) protocol to control access to the network's medium, the MAC protocol defining a MAC header that comprises multimedia (MM) data communication extensions, including a MM control field, the MM data communication extensions available for communicating multimedia data to or from other network components or systems communicatively coupled to the network, and wherein the MM control field includes at least one subfield selected from the group consisting of a subfield indicating a number of bytes padded with zeros in a current frame, a subfield identifying a group of network components communicating with a network component designated as a point coordinator, a subfield indicating an index number for a multimedia stream being transmitted between network components, and a subfield indicating a frame number of a multimedia data stream frame associated with said MM control field.

33. (Original) A machine-readable medium that provides instructions, which when executed by a machine, cause said machine to communicate in a computer network by accessing the communication medium in accordance to a medium access control (MAC) protocol that describes a MAC header comprising multimedia (MM) extensions,

021615.500060 Dallas 1772761.1

ATTORNEY DOCKET NO
1299-SW (P259US) (Formerly: 003498.P035)

8

PATENT
U.S. 09/614,833

including a MM control field having at least one subfield selected from the group consisting of a subfield indicating a number of bytes padded with zeros in a current frame, a subfield identifying a group of network components communicating with a network component designated as a point coordinator, a subfield indicating an index number for a multimedia stream being transmitted between network components, and a subfield indicating a frame number of a multimedia data stream frame associated with said MM control field.

34. (Withdrawn) In a computer network wherein network components communicate following a point coordinator function with contention free and non contention free periods, a multimedia capable computer network component comprising:

means for supporting DCF based contention period communications;

means for communicating with non multimedia capable network components only during the contention period; and

means for establishing connections and negotiating bandwidth in the contention period using DCF mechanisms.

35. (Withdrawn) The multimedia capable network component of claim 34 wherein said network component further comprises means for recognizing and using as time reference a beacon from a point coordinator network component.

36. (Withdrawn) The multimedia capable network component of claim 34 wherein said network component further comprises means for periodically providing its bandwidth requirements to the point coordinator network component.

021615.500060 Dallas 1772761.1

ATTORNEY DOCKET NO
1299-SW (P259US) (Formerly: 003498.P035)

9

PATENT
U.S. 09/614,833

37. (Withdrawn) The multimedia capable network component of claim 34 wherein said network component further comprises means for establishing multimedia data stream connections with other multimedia capable network components.

38. (Withdrawn) The multimedia capable network component of claim 34 wherein said network component further comprises means for supporting error correction and retransmission mechanisms.

39. (Withdrawn) The multimedia capable network component of claim 34 wherein said network component further comprises means for continuously measuring channel status and periodically providing said measurements to the point coordinator network component.

40. (Withdrawn) The multimedia capable network component of claim 34 wherein said network component further comprises means for communicating without receiving a polling signal from the point coordinator network component.

41. (Withdrawn) The multimedia capable network component of claim 34 wherein said network component further comprises means for optionally measure the report collisions during non-contention free periods.

42. (Withdrawn) The multimedia capable network component of claim 34 wherein said network component further comprises means for communicating to two or more such other network components during a contention free period.

021615.500060 Dallas 1772761.1

ATTORNEY DOCKET NO 10
1299-SW (P259US) (Formerly: 003498.P035)

PATENT
U.S. 09/614,833

43. (Withdrawn) The multimedia capable network component of claim 34 wherein said network component is a point coordinator network component.

44. (Withdrawn) The multimedia capable network component of claim 34 wherein said network component communicatively couple one or more other network components with a point coordinator network component.

45. (Withdrawn) The point coordinator network component of claim 35 further comprising:

means for transmitting beacon frames; and

means for allocating transmission slots to different network components within the contention free period of communications.

46. (Withdrawn) The point coordinator network component of claim 45 further comprising means for monitoring bandwidth utilization by the network components during contention free periods.

47. (Withdrawn) The point coordinator network component of claim 45 further comprising means for renegotiating bandwidth requirements with other network components to optimize bandwidth utilization.

48. (Withdrawn) The point coordinator network component of claim 45 further comprising means for dynamically changing the communication channel used by all the network components associated to said point coordinator.

021615.500060 Dallas 1772761.1

ATTORNEY DOCKET NO
1299-SW (P259US) (Formerly: 003498.P035)

11

PATENT
U.S. 09/614,833

49. (Withdrawn) The point coordinator network component of claim 45 further comprising means for negotiating with point coordinator network components associated with other sets of network components such that two or more sets of network components can communicate within the same channel.

50. (Withdrawn) The point coordinator network component of claim 45 further comprising means for monitoring the contention period of communications and assuring that there is available bandwidth for at least one data frame plus acknowledgement in said contention period.

51. (Withdrawn) The multimedia capable network component of claim 34 wherein said network component may become an alternate point coordinator.

52. (Withdrawn) The multimedia capable network component of claim 51 wherein said network component becomes said alternate point coordinator by a voting scheme among such other multimedia capable network components.

53. (Withdrawn) The method of claim 1 further comprising communicating during a contention free period in a time division multiplex operation without polling.

54. (Withdrawn) The method of claim 53 wherein the time division is performed by negotiations between a point coordinator network component and one or more other network components.

55. (Withdrawn) The method of claim 54 wherein the negotiations comprise the one

021615.500060 Dallas 1772761.1

ATTORNEY DOCKET NO
1299-SW (P259US) (Formerly: 003498.P035)

12

PATENT
U.S. 09/614,833

or more other network components requesting transmission time from the point coordinator network component which allocates transmission time slots for the requesting network components.

56. (Withdrawn) The method of claim 55 wherein the time requests and allocation comprise commands transmitted between the point coordinator and the one or more other network components within a command frame including other commands.

57. (Withdrawn) The method of claim 55 wherein a transmission time allocated to a network component by the point coordinator remain unchanged until the point coordinator allocates a different transmission time to said network component.

021615.500060 Dallas 1772761.1